

**Appl. No.** : 09/111,604  
**Filed** : July 7, 1998

**LISTING OF THE CLAIMS**

1. (Canceled)
2. (Canceled)
3. (Canceled)
4. (Canceled)
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36. (Canceled)

37. (Canceled)

38. (Canceled)

39. (Previously Presented) A method for measuring saturation of a blood constituent in a patient comprising the steps of:

irradiating said patient with electromagnetic radiation of at least three discrete, different wavelengths;

sensing an intensity of said radiation for each of said wavelengths after it passes through a portion of said patient to produce first, second, and third intensity signals;

representing each of said intensity signals as a function of concentration, the wavelength corresponding to the intensity signal, and a time-variable motion term corresponding to motion noise, said motion terms being proportional to one another for each of said intensity signals; and

solving the functions to obtain a value for said saturation,

wherein each of said functions includes a plurality of coefficients related to the wavelengths, the coefficients of said third function being determined based upon the coefficients of the first and second functions, and further comprising the steps of approximating at least a portion of said first and second intensity signals based upon the third intensity signal, and determining said saturation from said approximation of said first and second intensity signals.